

**Cemented Carbide Products on Basis with Cobalt Binder**

Date of editing: 19.01.2009

Date of impression: 11.05.2010

**1. Identification of the substance/preparation and of the company/undertaking****1.1 Identification of the label/trade name** Cemented Carbide Product on basis with Co binder**1.2 Identified uses** Tools, Wear parts, Function parts**1.3 Company/undertaking identification** Arno Friedrichs Hartmetall GmbH & Co. KG  
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[www.afcarbide.com](http://www.afcarbide.com)**Department responsible  
for information**Friederike Barth-Kruse  
[friederike.barth-kruse@afcarbide.com](mailto:friederike.barth-kruse@afcarbide.com)**1.4 Emergency telephone** +49(9229)9647-28 – Only available during office hours.**2. Hazards identification**

Grinding cemented carbide product or handling of grinding sludges will produce dust of potentially hazardous ingredients, which can come in air or cooling lubricant. In this case has to keep the air limit values according to chapter 15.

**3. Composition/information on ingredients**

Cemented carbide products in the main consist of Tungsten Carbide with Cobalt binder possibly with addition of Titanium carbide, Tantalum-/Niobium Carbide, Chromium Carbide and/or Vanadium carbide.

Substance	CAS-Nr.	Content (wt.%)	Hazard Symbols	R-phrases
Tungsten Carbide (WC)	12070-12-1	40 – 97		
Cobalt (Co)	7440-48-4	3 – 30	Xn	42/43, 53
Titanium Carbide (TiC)	12070-08-5	0 – 52		
Tantalum Carbide (TaC)	12070-06-3	0 – 20		
Niobium Carbide (NbC)	12069-94-2	0 – 20		
Vanadium Carbide (VC)	12070-10-9	0 – 5		
Chromium Carbide (Cr <sub>3</sub> C <sub>2</sub> )	12012-35-0	0 – 3		

**4. First aid measures**

Not applicable

**5. Fire-fighting measures**

Sintered cemented carbide products are not combustible.

**6. Accidental release measures**

Not applicable

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**7. Handling and Storage****Handling:** Protect against acids, alkalis and humidity.**8. Exposure controls/Personal protection****Exposure limit values:** see chapter 15**Skin protection:** The use of cemented carbide products does not require any particular skin protection.**9. Physical and chemical properties**

**Appearance:** grey, with hard coating yellow or black  
**Odour:** odourless  
**pH:** not applicable  
**Melting Range:** 1495 °C  
**Boiling Range:** 2870 °C  
**Flash point:** not applicable  
**Danger of Explosion:** no  
**Density:** 13,5 – 15,7 g/cm<sup>3</sup>  
**Water solubility:** no

**10. Stability and Reactivity****Stability:** Stable at normal temperature and pressure**Hazardous decomposition products:**

The product develops hydrogen with acids (danger of explosion)  
Thermal decomposition can lead to the escape Carbon monoxide/ Carbon dioxide,  
Tungsten trioxide and Cobalt oxide

**Conditions to avoid:** Temperatures above melting range**11. Toxicological Information****General remarks:** Damages of health by sintered cemented carbide products are not known.

**Co:** Acute Toxicity  
LD50 6171 mg/kg oral rat  
LDLo 750 mg/kg oral human

Irritant and corrosive effects  
No information available

Sensitisation  
Sensitisation in case of skin contact or inhalation possible

Sub-acute Toxicity  
No information available

CMR effects  
No information available

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**Cemented Carbide Dust:** Acute Toxicity  
NOEL oral, rat > 2000 mg/kg**12. Ecological information**

No particular effects or risks known

May cause long-term adverse effects in the aquatic environment.

**13. Disposal considerations**

The contained metals are valuable. They are to recycle. Return to supplier or metal merchant. Dispose of waste according to applicable local, state, and federal regulations.

**Waste codes product:** Within EU member state:  
120103 or 120104 or 120114 or 120115 or 120118

Wastes as scrap or in sludge or powder form are in case of exports within EU or OECD states the subject of EC-regulation 1013/2006EG. Waste codes: B1010 (scrap) or B1013 (sludge, powder)

**14. Transport information**

No dangerous good in sense of this transport regulation.

**15. Regulatory information****According to EC-regulations or the corresponding national regulations the product does not have to be labelled.****Limit value:** Dust emission value for Cemented Carbide  
in General dust emission value: 6 mg/m<sup>3</sup>  
Germany Co: 0,1 mg/m<sup>3</sup> in total dust; peak limitation category 4; EKA (exposition-equivalent for carcinogenic substances) value urine 60 µg/l, whole blood 5 µg/l  
NbC: air limit value 5 mg/m<sup>3</sup> (respirable fraction, insoluble Niobium compounds)  
WC: air limit value 5 mg/m<sup>3</sup> (total dust, insoluble Tungsten compounds);  
air limit value 1 mg/m<sup>3</sup> (total dust, soluble Tungsten compounds)  
VC: air limit value 0,5 mg/m<sup>3</sup> (total dust, Vanadium metal)**Water hazard class (WGK):** WGK 0 (solid body)**Advice:** National regulations to observe!

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**16. Other information****Relevant R-phrases**

**(Number and Full text):** R 42/43 May cause sensitization by inhalation and skin contact.  
R 53 May cause long-term adverse effects in the aquatic environment.

**Department responsible**

**For information:** Friederike Barth-Kruse

**Data changed  
compared with**

**the previous version:** Safety data sheet according to REACH-VO, 2006/1907/EG

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The user is responsible for information transfer of this safety data sheet to the members of staff.